AMENDMENTS TO THE CLAIMS

These claims replace all prior versions, and listings, of claims in the application:

1.(currently amended): A system for managing a communication network composed of a plurality of subnetworks, comprising:

a plurality of element managers provided one for each of the plural subnetworks, at least one subnetwork of the plurality of the subnetworks having a different technology or a different topology than other subnetworks of the plurality of subnetworks; and

a network manager accommodating said plural element managers for concentrated management thereof; wherein

each of said plural element managers having a collection and notification section for collecting QoS (Quality of Service) capability management information on the corresponding element manager and notifying said network manager of the collected QoS capability management information;

said network manager having

a management section including a function object group which performs a control of QoS policy provisioning over the communication network and an information object group which manages network information of each of the plural subnetworks, and for concentratedly managing various QoS capabilities of the whole communication network, based on the QoS capability management information collected and notified by the individual element managers,

a request reception section for receiving a request for a target QoS capability, and

a selection and notification section for selecting a candidate subnetwork having a QoS capability such as to satisfy the target QoS capability, for which the request has been

received by said request reception section, based on the various QoS capabilities being managed by said management section, and for notifying said element manager corresponding to the selected candidate subnetwork of selection information indicating that the candidate subnetwork has been selected; and

each of said element managers further having a control section for controlling the corresponding subnetwork based on the selection information notified by said selection and notification section of said network manager.

2.(currently amended): A system for managing a communication network composed of a plurality of subnetworks, comprising:

a plurality of element managers provided one for each of the plural subnetworks for individual management thereof, at least one subnetwork of the plurality of the subnetworks having a different technology or a different topology than other subnetworks of the plurality of subnetworks; and

a network manager accommodating said plural element managers for concentrated management thereof; wherein

each of said plural element managers having a collection and notification section for collecting QoS (Quality of Service) capability management information on the corresponding element manager and notifying said network manager of the collected QoS capability management information;

said network manager having

a management section including a function object group which performs a control of QoS policy provisioning over the communication network and an information object group

which manages network information of each of the plural subnetworks, and for concentratedly managing various QoS capabilities of the whole communication network, based on the QoS capability management information collected and notified by the individual element managers.

3.(currently amended): An element manager for use in a communication network managing system, which manages a communication network composed of a plurality of subnetworks and includes a plurality of element managers corresponding to the plural subnetworks and a network manager accommodating the plural element managers, said element manager comprising:

a collection and notification section for collecting QoS (Quality of Service) capability management information to be used in managing the corresponding subnetwork, and for notifying the network manager of the collected QoS capability management information; and

a control section for controlling the corresponding subnetwork based on information which is obtained by the network manager, said network manager having a function object group which performs a control of QoS policy provisioning over the communication network and an information object group which manages network information of each of the plural subnetworks and a function of concentratedly managing QoS capabilities of the communication network based on said QoS capability management information collected and notified by said collection and notification section, and said information is notified from the network manager on the candidate subnetwork having a QoS capability such as to satisfy a target QoS capability for the corresponding subnetwork, at least one subnetwork of the plurality of the subnetworks having a different technology or a different topology than other subnetworks of the plurality of subnetworks.

4.(currently amended): An element manager for use in a communication network managing system, which manages a communication network composed of a plurality of subnetworks and includes a plurality of element managers corresponding to the plural subnetworks, and a network manager accommodating the plural element managers, said network manager having a function object group which performs a control of QoS policy provisioning over the communication network and an information object group which manages network information of each of the plural subnetworks,

wherein said element manager has a collection and notification section for collecting QoS (Quality of Service) capability management information to be used in managing the corresponding subnetwork, and for notifying the network manager of the collected QoS capability management information, at least one subnetwork of the plurality of the subnetworks having a different technology or a different topology than other subnetworks of the plurality of subnetworks.

5.(currently amended): A network manager for use in a communication network managing system, which manages a communication network composed of a plurality of subnetworks and includes a plurality of element managers corresponding to the plural subnetworks, and a network manager accommodating the plural element managers, said network manager comprising:

a management section including a function object group which performs a control of QoS policy provisioning over the communication network and an information object group which manages network information of each of the plural subnetworks, and for concentratedly

managing various QoS (Quality of Service) capabilities of the whole communication network, based on QoS capability management information of the corresponding subnetworks, which information has been collected and notified by the individual element managers;

a request reception section for receiving a request for a target QoS capability; and

a selection and notification section for selecting a candidate subnetwork having a QoS capability such as to satisfy the target QoS capability, for which the request has been received by said request reception section, based on the various QoS capabilities being managed by said management section, and for notifying the element manager corresponding to the selected subnetwork of selection information that the candidate subnetwork has been selected, at least one subnetwork of the plurality of the subnetworks having a different technology or a different topology than other subnetworks of the plurality of subnetworks.

6.(currently amended): A network manager for use in a communication network managing system which manages a communication network composed of a plurality of subnetworks and includes a plurality of element managers corresponding to the plural subnetworks, and a network manager accommodating the plural element managers,

wherein said network manager has a management section including a function object group which performs a control of QoS policy provisioning over the communication network and an information object group which manages network information of each of the plural subnetworks, and for concentratedly managing various QoS (Quality of Service) capabilities of the whole communication network, based on QoS capability management information of the corresponding subnetworks, which information has been collected and notified by the individual element managers, at least one subnetwork of the plurality of the

subnetworks having a different technology or a different topology than other subnetworks of the plurality of subnetworks.

7.(currently amended): A network manager for use in a communication network managing system, which manages a communication network composed of a plurality of subnetworks and includes a plurality of element managers corresponding to the plural subnetworks, and a network manager accommodating the plural element managers, said network manager comprising:

a management section for concentratedly managing various QoS (Quality of Service) capabilities of the whole communication network, based on QoS capability management information of the corresponding subnetworks, which information has been collected and notified by the individual element managers;

a request reception section for receiving a request for a target QoS capability; and

a selection and notification section for selecting a candidate subnetwork having a QoS capability such as to satisfy the target QoS capability, for which the request has been received by said request reception section, based on the various QoS capabilities being managed by said management section, and for notifying the element manager corresponding to the selected subnetwork of selection information that the candidate subnetwork has been selected,

wherein said management section is constructed to concentratedly manage the various QoS capabilities of said communication network and those of another communication network independent of said communication network in view of other QoS capability management information of other subnetworks that constitute said other communication network, at least one subnetwork of the plurality of the subnetworks having a different technology or a different

topology than other subnetworks of the plurality of subnetworks.

8.(currently amended): A network manager for use in a communication network managing system, which manages a communication network composed of a plurality of subnetworks and includes a plurality of element managers corresponding to the plural subnetworks, and a network manager accommodating the plural element managers, said network manager comprising:

a management section for concentratedly managing various QoS (Quality of Service) capabilities of the whole communication network, based on QoS capability management information of the corresponding subnetworks, which information has been collected and notified by the individual element managers;

a request reception section for receiving a request for a target QoS capability; and

a selection and notification section for selecting a candidate subnetwork having a QoS capability such as to satisfy the target QoS capability, for which the request has been received by said request reception section, based on the various QoS capabilities being managed by said management section, and for notifying the element manager corresponding to the selected subnetwork of selection information that the candidate subnetwork has been selected,

wherein said management section is constructed to manage supported tagging, as additional information, for discrimination on combination of the subnetworks, at least one subnetwork of the plurality of the subnetworks having a different technology or a different topology than other subnetworks of the plurality of subnetworks.

9.(currently amended): A network manager for use in a communication network

managing system, which manages a communication network composed of a plurality of subnetworks and includes a plurality of element managers corresponding to the plural subnetworks, and a network manager accommodating the plural element managers, said network manager comprising:

a management section for concentratedly managing various QoS (Quality of Service) capabilities of the whole communication network, based on QoS capability management information of the corresponding subnetworks, which information has been collected and notified by the individual element managers;

a request reception section for receiving a request for a target QoS capability; and

a selection and notification section for selecting a candidate subnetwork having a QoS capability such as to satisfy the target QoS capability, for which the request has been received by said request reception section, based on the various QoS capabilities being managed by said management section, and for notifying the element manager corresponding to the selected subnetwork of selection information that the candidate subnetwork has been selected,

wherein said management section is constructed to update the various QoS capabilities of the communication network when said QoS capability management information is updated, at least one subnetwork of the plurality of the subnetworks having a different technology or a different topology than other subnetworks of the plurality of subnetworks.

10.(currently amended): A network manager for use in a communication network managing system according to claim 5, wherein said selection and notification section is constructed to previously select two or more of the subnetworks when selecting the candidate subnetworks having communication QoS capabilities such as to individually satisfy the target

QoS capability, for which the request has been received by said request reception section, to firstly notify one element manager, corresponding to a first one of the candidate subnetworks, of the previous selection of the plural subnetworks and secondly notify another element manager, corresponding to a second one of the candidate subnetworks, of unable information that the corresponding first candidate subnetwork cannot be controlled, upon receipt of the unable information as a response from the element manager corresponding to the first candidate subnetwork, at least one subnetwork of the plurality of the subnetworks having a different technology or a different topology than other subnetworks of the plurality of subnetworks.

11.(currently amended): A network manager for use in a communication network managing system, which manages a communication network composed of a plurality of subnetworks and includes a plurality of element managers corresponding to the plural subnetworks, and a network manager accommodating the plural element managers, said network manager comprising:

a management section for concentratedly managing various QoS (Quality of Service) capabilities of the whole communication network, based on QoS capability management information of the corresponding subnetworks, which information has been collected and notified by the individual element managers;

a request reception section for receiving a request for a target QoS capability; and

a selection and notification section for selecting a candidate subnetwork having a QoS capability such as to satisfy the target QoS capability, for which the request has been received by said request reception section, based on the various QoS capabilities being managed by said management section, and for notifying the element manager corresponding to the

selected subnetwork of selection information that the candidate subnetwork has been selected,

wherein said selection and notification section is constructed to select two or more of the subnetworks according to preset priorities when selecting the candidate subnetworks having QoS capabilities such as to individually satisfy the target QoS capability, for which the response has been received by said request reception section, and to notify one element manager, corresponding to a higher-priority one of the candidate subnetworks, of the selection, at least one subnetwork of the plurality of the subnetworks having a different technology or a different topology than other subnetworks of the plurality of subnetworks.

12.(currently amended): A computer-readable recording medium in which a program is recorded for instructing a computer to be used in a communication network management system including a plurality of element managers corresponding to a plurality of subnetworks that constitute a communication network, and a network manager accommodating the plural element managers, wherein said program instructs said computer to function as the following:

collecting and notifying means for collecting QoS (Quality of Service) capability management information on a corresponding element manager and notifying said network manager of the collected QoS capability management information; and

control means for controlling the corresponding subnetwork based on information which is obtained by the network manager, the network manager including a function object group which perform a control of QoS policy provisioning over the communication network and an information object group which manages network information of each of the plural subnetworks and also having a function of concentratedly managing various QoS capabilities of the whole communication network based on said QoS capability management information

collected and notified by said collecting and notifying means and which is notified from the network manager on the candidate subnetwork having a QoS capability such as to satisfy a target QoS capability for the individual subnetwork, at least one subnetwork of the plurality of the subnetworks having a different technology or a different topology than other subnetworks of the plurality of subnetworks.

13.(currently amended): A computer-readable recording medium in which a program is recorded for instructing a computer to be used in a communication network managing system including a plurality of element managers corresponding to a plurality of subnetworks that constitute a communication network, and a network manager accommodating the plural element managers,

wherein said program instructs said computer to function as collecting and notifying means for collecting various QoS capability management information on the individual element managers and notifying said network manager of the collected QoS capability management information, the network manager including a function object group which perform a control of QoS policy provisioning over the communication network and an information object group which manages network information of each of the plural subnetworks, at least one subnetwork of the plurality of the subnetworks having a different technology or a different topology than other subnetworks of the plurality of subnetworks.

14.(currently amended): A computer-readable recording medium in which a program is recorded for instructing a computer to be used in a communication network managing system including a plurality of element managers corresponding to a plurality of subnetworks that

constitute a communication network, and a network manager accommodating the plural element managers, wherein said program instructs said computer to function as the following:

managing means performing control of QoS policy provisioning over the communication network and managing network information of each of the plural subnetworks, and for concentratedly managing various QoS (Quality of Service) capabilities of the whole communication network, based on QoS capability management information of the corresponding subnetworks, which information is collected and notified by the individual element managers;

request receiving means for receiving a request for target QoS capability; and

selecting and notifying means for selecting a candidate subnetwork having a QoS capability such as to satisfy the target QoS capability, for which the request has been received by said request receiving means, based on the QoS capabilities being managed by said managing means, and for notifying the element manager corresponding the selected subnetwork of selection information that the candidate subnetwork has been selected, at least one subnetwork of the plurality of the subnetworks having a different technology or a different topology than other subnetworks of the plurality of subnetworks.

15.(currently amended): A computer-readable recording medium in which a program is recorded for instructing a computer to be used in a communication network management system including a plurality of element managers corresponding to a plurality of subnetworks that constitute a communication network, and a network manager accommodating the plural element managers,

wherein said program instructs said computer to function as managing means including performing a control of QoS policy provisioning over the communication network and managing

network information of each of the plural subnetworks, and for concentratedly managing various QoS (Quality of Service) capabilities of the network, based on QoS capability management information of the corresponding subnetworks, which information has been collected and notified by the individual element managers, at least one subnetwork of the plurality of the subnetworks having a different technology or a different topology than other subnetworks of the plurality of subnetworks.

16.(original): A network manager for use in a communication network managing system according to claim 7, wherein said management section is constructed to manage supported tagging, as additional information, for discrimination on combination of the subnetworks.

17.(original): A network manager for use in a communication network managing system according to claim 16, wherein said management section is constructed to update the various QoS capabilities of the communication network when said QoS capability management information is updated.

18.(previously presented): A network manager for use in a communication network managing system according to claim 8, wherein said management section is constructed to update the various QoS capabilities of the communication network when said QoS capability management information is updated.

19.(currently amended): A network manager for use in a communication network

managing system which manages a communication network composed of a plurality of subnetworks and includes a plurality of element managers corresponding to the plural subnetworks, and a network manager accommodating the plural element managers,

wherein said network manager has a management section for concentratedly managing various QoS (Quality of Service) capabilities of the whole communication network, based on QoS capability management information of the corresponding subnetworks, which information has been collected and notified by the individual element managers, and

wherein said management section is constructed to concentratedly manage the various QoS capabilities of said communication network and those of another communication network independent of said communication network in view of other QoS capability management information of other subnetworks that constitute said other communication network, at least one subnetwork of the plurality of the subnetworks having a different technology or a different topology than other subnetworks of the plurality of subnetworks.

20.(original): A network manager for use in a communication network managing system according to claim 19, wherein said management section is constructed to manage supported tagging, as additional information, for discrimination on combination of the subnetworks.

21.(original): A network manager for use in a communication network managing system according to claim 20, wherein said management section is constructed to update the various QoS capabilities of the communication network when said QoS capability management information is updated.

22.(currently amended): A network manager for use in a communication network managing system which manages a communication network composed of a plurality of subnetworks and includes a plurality of element managers corresponding to the plural subnetworks, and a network manager accommodating the plural element managers,

wherein said network manager has a management section for concentratedly managing various QoS (Quality of Service) capabilities of the whole communication network, based on QoS capability management information of the corresponding subnetworks, which information has been collected and notified by the individual element managers, and

wherein said management section is constructed to manage supported tagging, as additional information, for discrimination on combination of the subnetworks, at least one subnetwork of the plurality of the subnetworks having a different technology or a different topology than other subnetworks of the plurality of subnetworks.

23.(original): A network manager for use in a communication network managing system according to claim 22, wherein said management section is constructed to update the various QoS capabilities of the communication network when said QoS capability management information is updated.

24.(currently amended): A network manager for use in a communication network managing system which manages a communication network composed of a plurality of subnetworks and includes a plurality of element managers corresponding to the plural subnetworks, and a network manager accommodating the plural element managers,

wherein said network manager has a management section for concentratedly managing various QoS (Quality of Service) capabilities of the whole communication network, based on QoS capability management information of the corresponding subnetworks, which information has been collected and notified by the individual element managers, and

wherein said management section is constructed to update the various QoS capabilities of the communication network when said QoS capability management information is updated, at least one subnetwork of the plurality of the subnetworks having a different technology or a different topology than other subnetworks of the plurality of subnetworks.